

REMARKS

Claims 6 and 7 are amended to correct the spelling of “-membered”

Applicants have elected species 1a (Iridium piq phosphorescent emitter in layer A), 8b (TBADN anthracene host for layer B) and 5c (a styryl amine emitter for layer B.) It is requested that the non-elected species be rejoined upon finding allowability of a generic claim.

Referring to paragraph 1 of the rejection, Applicants agree with the Examiner that claim 19 is directed to a perylene species and should be treated as withdrawn. Applicants disagree with the Examiner that claim 29 should be included as elected. Compound 8b was elected which has a naphthylene group at W9 and W10, not a biphenyl. Perhaps the Examiner was looking at 8c.

Referring to paragraph 2 of the rejection, Applicants have amended Claim 29 to make the language consistent in the person used.

Claims 1-9, 11-18, 20-21, and 26-33 stand rejected under 35 U.S.C. 103(a) as being unpatentable over D’Andrade et al. (US 2002/0197511) in view of Chen et al. (US 2004/0247937), Hosokawa et al. (US 5,121,029) and Kwong et al. (US 2004/0241495). According to the Examiner:

D’Andrade et al. discloses an OLEDs comprising an emissive region wherein the emissive region comprises a host material, and a plurality of emissive dopants, wherein the emissive region is comprised of a plurality of bands and each emissive dopant is doped into a separate band within the emissive region, and wherein at least one of the emissive dopants emits light by phosphorescence (see abstract). D’Andrade et al. teaches the region may be comprised of multiple emitting layers (see par. 59). Although **D’Andrade et al. does not appear to teach the specific phosphorescent compound (Ir(piq) species currently under consideration**, D’Andrade et al. generally teaches a phosphorescent dopant is desired for at least one of the emissive dopants (see abstract and par. 36). Kwong et al. teaches in analogous art a phenylpyridine organometallic complex.

It would have been obvious to one of ordinary skill in the art at the time of the invention to have selected the iridium phosphorescent compound taught by Kwong et al. as a phosphorescent compound for the D’Andrade et al. device, because D’Andrade et al. teaches an emitting phosphorescent dopant is desirable for one of the light emitting layers. D’Andrade et al. further teaches an emissive layer with a fluorescent dopant and a host (see par. 41).

(emphasis added)

There is no suggestion in the cited art to use an OLED device containing two light emitting layers with an iridium isoquinoline containing emitter in one of the emitting layers. It is believed that the data in the present application establishes unexpected results.

The primary reference, D'Andrade, is cited for disclosure of multiple emitting layers with a phosphorescent emitter in at least one of those layers. There is no suggestion of the iridium isoquinoline emitter. The Examiner notes that there is no teaching of "the specific phosphorescent compound (Ir(piq) species currently under consideration". It is noted that there is not even a teaching of any isoquinoline iridium emitter, which is the language of the generic claims, not just the elected species.

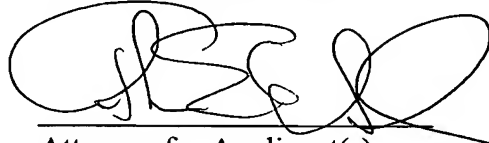
Kwong discloses a generic formula from which various quinoline and isoquinoline complexes can be derived. Sub-generic formulas at pages 11-12 show various configurations for tris-pyridyl and quinolinylnyl complexes including a formula for a 3-phenyl isoquinoline as IIa. However, no specific 3-phenyl isoquinoline compounds of formula IIa are tested or shown. Accordingly, one would expect a 3-phenyl isoquinoline to perform in a manner similar to the other tested phenyl quinolines such as those shown at pages 12-13.

It is appreciated that the Yield and the Stability of an emitter is especially important in a white device wherein the two emitters must provide a balanced emission over time to insure that the emission stays white. Now, turning to the present application, the data of Table 1 at page 48 should be considered. The emitter for Samples 3, 4, 9 and 10 appear to be within the generic formula of Kwong for tris-emitters. The Yield for the two isoquinoline examples 1 and 2 is far above that of the samples 3, 4, 9, and 10 (avg. 21 vs. 8). Further, the stability of Sample 1 is far superior to all of the other samples (957 vs, 165). These advantages of the isoquinoline were not apparent from the references.

To summarize, the present invention claim a white device with two emitters where one is an iridium isoquinoline complex. the superior results of the phenyl isoquinoline far exceeds that which would have been expected from the Kwong teachings and Kwong does not contemplate the multi emitter white device of the present invention.

In view of the foregoing amendments and remarks, the Examiner is respectfully requested to withdraw the outstanding rejection and to pass the subject application to Allowance.

Respectfully submitted,



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